vidual in a large proportion of cases late in life, in which the brain itself would naturally begin to diminish in weight and in which the disease itself may have been of long standing, no reliable estimate could be attained. He concludes as follows :

1. All psychoses necessarily diminish the weight of the brain.

2. This diminution depends (*a*) on the age of the patient, (*b*) on the duration of the disease, (*c*) on the intensity of the disease.

a.—The diminution in weight is smallest in both sexes between twenty and thirty years of age, largest in males of seventy years of age, and in women of sixty years of age.

b.—The shorter the average duration of the disease the smaller in general is the loss in brain weight and *vice versa.*

c.—The deeper the disease affects the mental life of the individual, and in the one who shows the smallest ability for mental work, the greater is the loss of brain weight, and *vice versa.*

3. The diminution in females is larger than that in males by from $\frac{1}{6}$ to 1.6 per cent.

N. E. B.

CONTRIBUTION TO THE MORPHOLOGY AND MORPHOGENESIS OF THE CRUS CEREBRI, by G. Jelgersura (*Centralblatt für Nervenheilkunde, etc., September 15th and October 15th.*)

This embraces a short resume of the author's investigations of the brains of five idiots, in which the cortex was very much atrophied as the result of various pathological processes. Only one of the hemispheres of two of these cases showed atrophic changes, the other hemisphere in each being almost entirely normal. There were almost equal changes in both hemispheres in each of the other cases, and almost the entire cerebral cortex was destroyed by encephalitis or by meningitis. The latter cases were extreme idiots, the former two only half idiots with the somatic signs

of cerebral hemiatrophy, and one of which was epileptic. All died of some intercurrent affection, between the ages of twenty and forty years. These cases hence afforded to the author a good opportunity of utilizing a pathological imitation of the atrophy method of anatomical research.

"The pons and arciform nuclei were changed in all cases either on one or both sides, according to whether the pathological process involved one or both hemispheres and involved the cells as well as the fibres. The connecting paths between the ganglion cells of the pons and the cortex cerebri were also atrophied, and were best demonstrated in sections at the level of the crus, which was much reduced in volume even in the mesal as well as in the lateral thirds. The pyramid tract in the mesal third was constantly atrophic. In none of the cases did the atrophy of the pyramids involve any of the nuclei in the medulla and spinal cord which belong to the reflex systems. All motor nuclei presented an entirely normal appearance ; and, in the cases of cerebral hemiatrophy, no difference between the motor nuclei of either side belonging to the reflex arcs could be demonstrated. Only the nerve fibres were involved in the atrophy."

"In the pons those transverse fibres were atrophied which go through the raphe and pontis-brachium to the opposite side of the cerebellum." In fact these cases corroberated the statements made by other authors regarding the course of the fibres.

The nuclei arciformes with their connections were changed in unison with the pons, and the author regards them as distal prolongations of the ganglion cell group of the pons.

The author corroborates the findings of Bechterew, who described a group of cells in the pons under the name of "nucleus reticularis pontis," and which lay in the raphe and presented two large wing-shaped extensions between the lemniscus fibres, and which were involved in the atrophic process. This atrophy was traced to the mesal third of the pes pedunculi, and corresponded in course with the course of Meynert's "bundle from the pes to the tegmentum."

"The changes in the olive were numerous. In two cases the ganglion cells were atrophied, on both sides in one case, and very extensively, so that very little of the olive remained; in another, the cells of the olive on the atrophic side were remarkably smaller than on the sound side. In the other cases, also a cell atrophy could be unequivocally demonstrated."

In four cases there was atrophy of the tract, which the author described, although ignorant of the description of Flechsig and Bechterew of the same tract connecting the large olive with the cerebrum (nucleus lentiformis), and which they called the central tegmental tract (*centrale Haubenbahn*).

In one of the cases the connecting tract between the olive and the cerebellum, by way of the raphe and the restiform body of the opposite side, was atrophic.

The hemispheres of the cerebellum were plainly atrophic in four cases. The dentated body of one side was larger than that of the other. In all five cases the tegmenti-brachium was atrophic, as well as the red nucleus of the tegmentum.

The thalamus was also involved, and there was also a diminution in volume of the body of Luys and the body of the substantia nigra.

"Although the cerebral atrophy existed for years and a secondary atrophy of the pyramid tract resulted thereby, the primary nuclei in the medulla and the anterior cornua of the spinal cord remained intact."

The author then considers the question whether there is not an anatomical basis to account for the fact that some of these tracts follow the law of degeneration of Waller, while other tracts do not, and refers to the well-known investigations of Golgi on the structure of the nerve cells and their connections with nerve fibres, and to the similar investigations of Forel, as an explanation. N. E. B.

NUCLEAR ORIGIN OF THE OCULAR FACIAL.—Mendel, Berlin Medical Society, Nov. 9th, 1887.

Investigations on rabbits and guinea-pigs resulted in the discovery that the upper facial branch takes its origin in the